

Date: Thursday, 15/01/2009 11:15:19 AM  
 User: Julie Dawson

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : STUD
<b>Job Number</b> : 44823	
<b>Estimate Number</b> : 13152	
<b>P.O. Number</b> :	<b>Part Number</b> : D36881
<b>This Issue</b> : 15/01/2009 <b>S.O. No.</b> :	<b>Drawing Number</b> : D3688 REV B
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : MACHINED PARTS	<b>Drawing Revision</b> : B
<b>Previous Run</b> : 37143	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 30/01/2009 <b>Qty:</b> 10 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>JUD 09.01.15</u>	
<b>Comment</b> : Est Rev:A New Issue 08-01-29 JLM Verified By:EC Est Rev:B Material Change 09-01-07 JLM Verified By:EC	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	M174PHH900R1000	17-4PH SS ROUND BAR 1.00 COND.900
-----	-----------------	-----------------------------------



**Comment:** Qty.: 1.1414 f(s)/Unit Total : 11.4135 f(s)  
 17-4PH SS ROUND BAR 1.00 \*\*\*CONDITION H900\*\*\*\*  
 BATCH: M110540 10 09/01/25

2.0	BAND SAW	BAND SAW
-----	----------	----------



**Comment:** BAND SAW  
 Cut blank 11.673" long

10 09/01/25

3.0	DOOSAN LATHE	DOOSAN LATHE
-----	--------------	--------------



**Comment:** DOOSAN LATHE  
 1-Turn as per Folio FA718 Rev: N/A & Dwg D3688 Rev: B

(P107)

2-Deburr per dwg D3688

10 09/01/25

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

10 09/01/25

5.0	LATHE CONV.	CONVENTIONAL LATHE
-----	-------------	--------------------



**Comment:** CONVENTIONAL LATHE  
 Face to finished length as per dwg D3688 AND center drill as per Dwg D3688

10 09/01/25

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: D3688-1 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: AS Date: 09.01.29  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>44823</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09/01/26	3	.625 <del>±</del> +.004 - .000. hole over size after indexing insert. Tool deflection occured.  RC Program developed	MP 09/01/26	great cut off 2" and use material for shorter studs.  B <sup>2</sup> M110540	MP 09/01/26	S 09/01/26	MP 09/01/26	S 09/01/26
09/01/26	7	thread under tolerance thread was .003 over. tried to knock it off but tailstock deflection makes accuracy difficult and spring passes or air cuts cause vibration.	MP 09/01/26	scrap + replace  B <sup>4</sup> M110540	MP 09/01/26	S 09/01/26	MP 09/01/26	S 09/01/26
		RC Program development						

NOTE: Date & initial all entries

Date: Thursday, 15/01/2009 11:15:19 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44823

Part Number: D36881

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*Ref 02/01/25*

7.0

DOOSAN LATHE

DOOSAN LATHE



Comment: Doosan Lathe

1- Turn as per Folio FA718 Rev: *n/a* & Dwg D3688 Rev: *19*

2-Deburr per dwg D3688

*Ref 02/01/25*

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*Ref 02/01/25 (10)*

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*Ref 09-01-26 (10)*

10.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: *8084*  
LPI Per ASTM 1417 LEVEL 2  
Certificate of conformaty is required

*JUD 09-01-28 (10)*

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage  
Ensure certificate of conformity is attached

*P. 09/01/28 (10)*

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*8096128 (10)*

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 15/01/2009 11:15:19 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44823

Part Number: D36881

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

*P 9/10/28 (10)*

14.0

QC21

FINAL INSPECTION/W/O RELEASE



*09/10/29*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*MF 09-01-28*

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

PART AEROSPACE LTD		Work Order: 44823
Description: Stud		Part Number: 36887
Inspection Dwg: 3688	Rev: B	Page 1 of 1

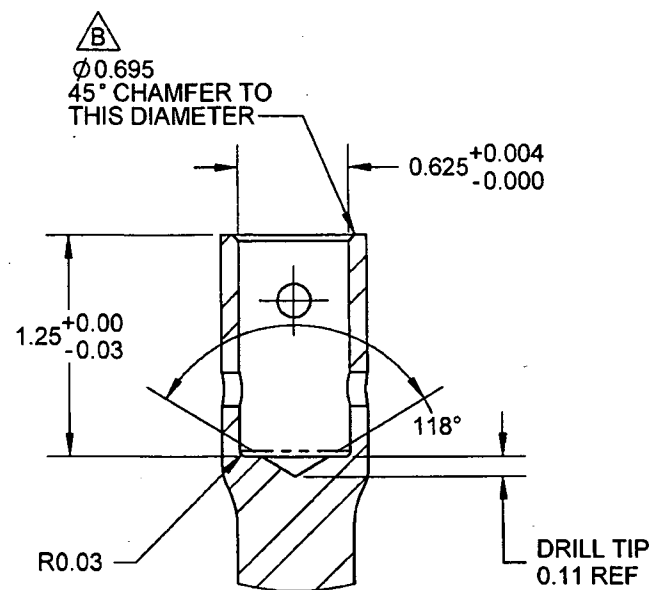
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article    ☐ Prototype

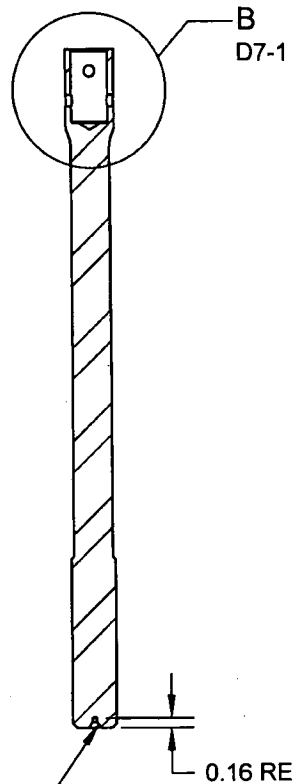
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.695	+/- .0010	.695				
.625	+ .004 - .001	.625				
1.25	+/- .030	1.25				
11.80	+/- 1/2°	11.8				
R.03	+/- .030	R.03				
.11 Ref	+/- .030	.11				
90°	+/- 1/2°	90°				
.189	+ .005 - .001	.189				
1.31	+/- .030	1.31				
1.65	+/- .030	1.65				
.870	+ .010 - 0.0	.870				
.659	+0.0 - .015	.659				
11.573	+/- .015	11.573				
2.9	+/- .030	2.9				
3/4-16	2A	2A				
.075	+/- .010	.075				
45°	+/- 1/2°	45°				
.370	+0.0 - .010	.370				
.189	+ .005 - .001	.189				
R.25	+/- .030	R.25				
R.50	+/- .030	R.50				

Measured by: [Signature]	Audited by: [Signature]	Prototype Approval:	N/A
Date: 09/01/26	Date: 09-01-26	Date:	N/A

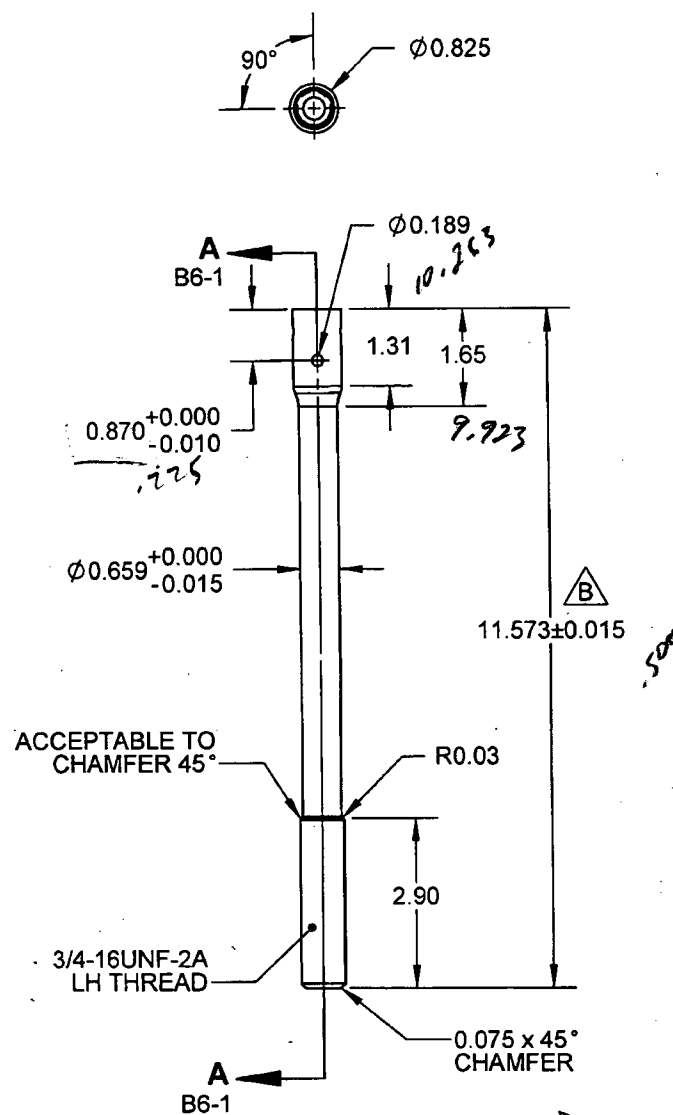
Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	



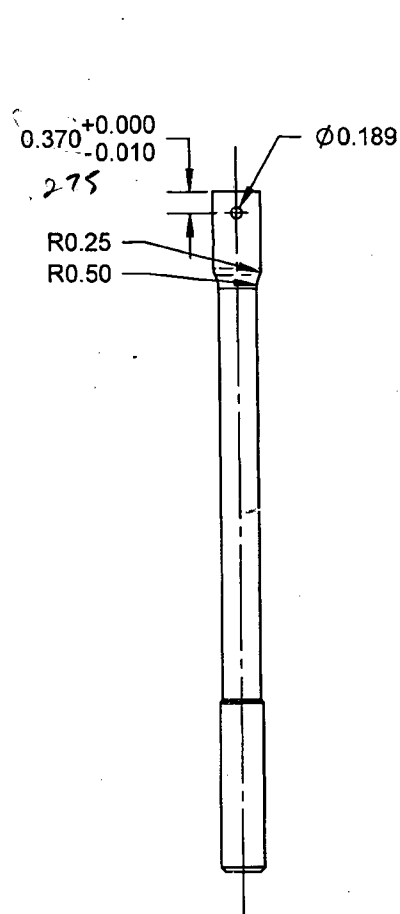
**DETAIL B**  
SCALE 3X  
D6-1



**SECTION A-A**  
D4-1



**D3688-1 STUD**



- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 1.24 lb
  - 8) LPI PER ASTM 1417 LEVEL 2

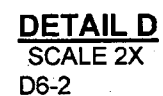
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B	CHANGE TO 17-4PH H-900 (ZN A8-1, A8-2, A8-3, A4-4); REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN C3-1) BASED ON PROTOTYPE INSTALL; Ø0.695 WAS Ø0.665 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8- 4); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
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MFG. APPR.	97	D3688	SHEET 1 OF 4
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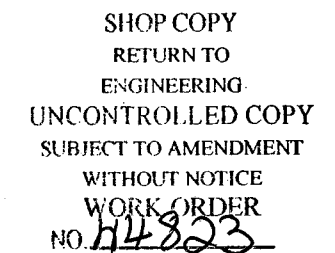
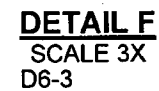




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| DE APPR.             | <i>[Signature]</i> |  | NTS          |
| DATE <b>08.11.24</b> |                    |  |              |

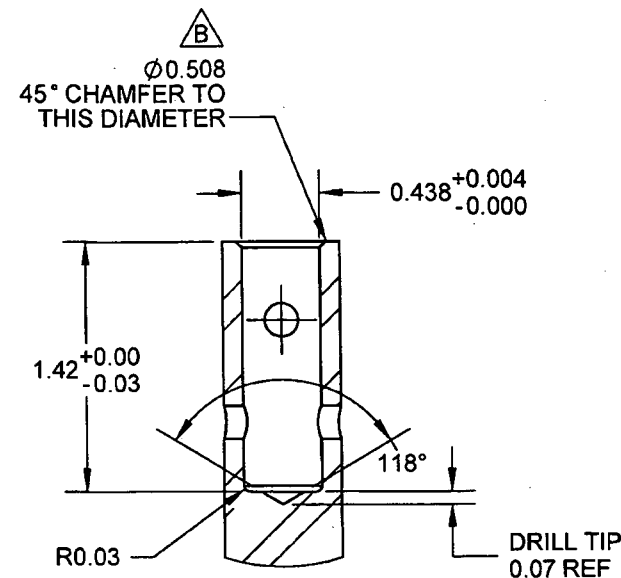




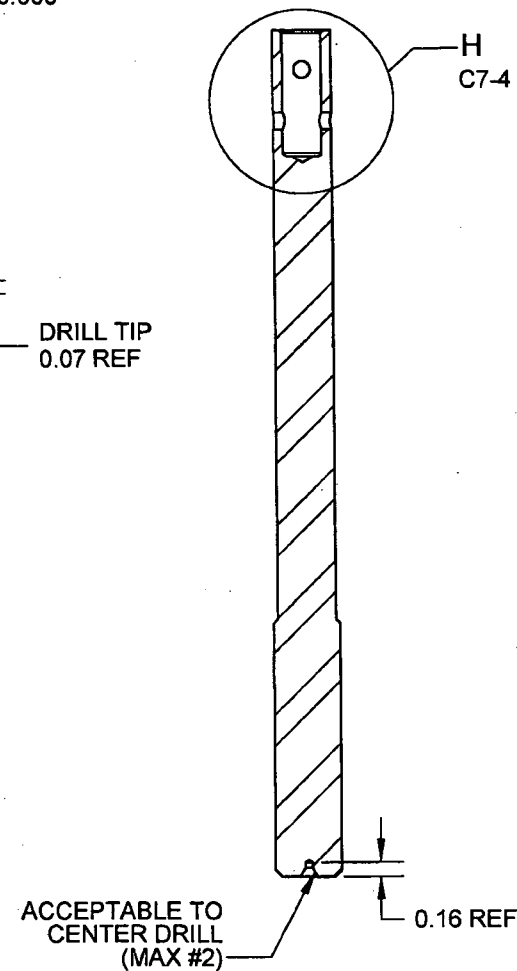
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| DE APPR.             | <i>[Signature]</i> |   |
| DATE <b>08.11.24</b> |                    |   |



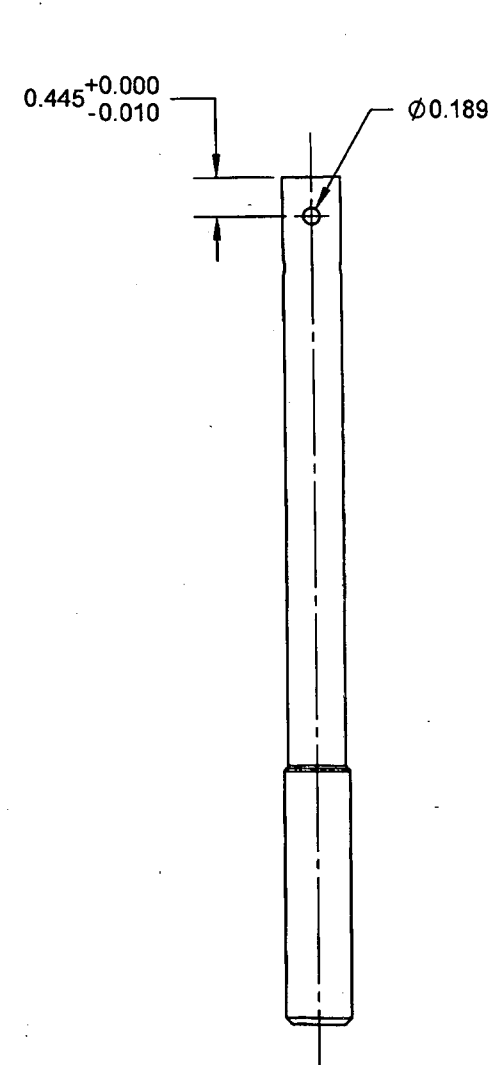
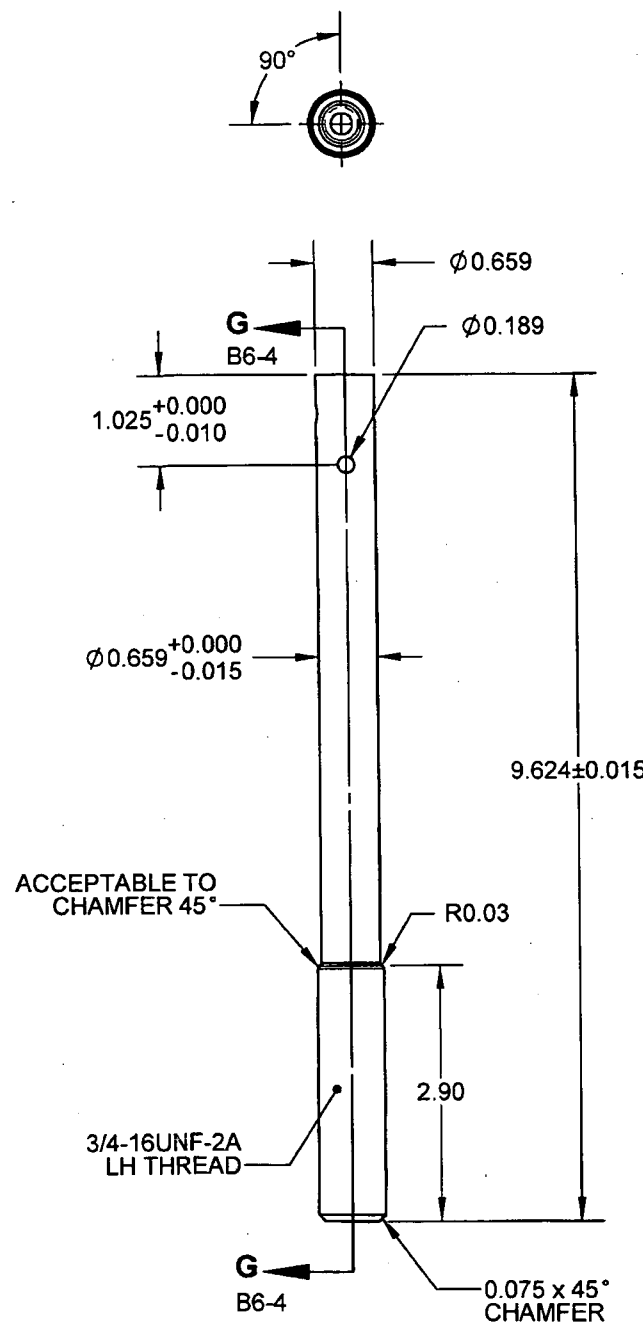


**DETAIL H**  
SCALE 2X  
D6-4



**SECTION G-G**  
D4-4

**D3688-7 STUD**



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WORK ORDER  
NO. 44823

**RELEASED**  
8/12/15

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.97 lb
  - 8) LPI PER ASTM 1417 LEVEL 2

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
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DE APPR.	11	STUD	NTS
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# LIQUID PENETRANT TEST REPORT

P- 14931

PAGE 1 OF 1

CLIENT DART AEROSPACE DATE JAN. 20-2009 TIME AM ☒ PM ☐  
ATTENTION LINDA ACUREN JOB NO. 188-09-001282  
ADDRESS 1270 ABERDEEN ST PO/WO No. 8084  
HAWKES BURY, ONT. K6A-1K7 WORK LOCATION MAIN SHOP - HAWKESBURY  
ACCEPTANCE STD. ASTM 1417 REV./DATE 2007  
PROJECT F.P.I ON MACHINED PARTS AND CROSS TUBES  
ITEM(S) EXAMINED 42 MACHINED PIECES.  
3 CROSS TUBES 100% EXTERNAL AND ONE CROSS TUBE REEXAMINE

JOB DESCRIPTION WET FLOUORESCENT LIQUID PENETRANT INSPECTION  
PROCEDURE NO. LT-XXXX REV./DATE LT-XXXX-XXX REV./DATE LT-XXXX-XXX  
PART NO. WET FLOUORESCENT LIQUID PENETRANT INSPECTION MATERIAL ALUMINUM THICKNESS 0.063  
SCOPE CARRIED OUT ON 100% EXTERNAL.

TEST DETAILS  
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED  
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 8171 ☐ OUTPUT > 1000  $\mu$ W/cm<sup>2</sup> ☐ AMBIENT < 2 fc  
PENETRANT 2L 67 MINIMUM DWELL TIME 5 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE  
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER  
DEVELOPER SKD 52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE FEB -09  
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE  
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL  
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☐ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- ( <input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL )		ACCEPT	REJECT
ITEM	COMMENTS		
1	JB# 44214	✓	
1	45066	✓	
1	44215	✓	
1	44944	✓	
2	45299	✓	
10	44824	✓	
6	44087	✓	
2	45297	✓	
10	44823	✓	
6	44686	✓	
6	44685	✓	

02/1/28  
ALL ITEMS FOUND  
ACCEPTABLE FOR JOB # 12028

Scope of Services  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.  
Standard of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES  
CLIENT REPRESENTATIVE Matthew M. M. M. DTR #  
TECHNICIAN (SIGNATURE): Mike Johnston REPORT REVIEWED BY:  
NAME (PRINT): Mike Johnston NAME INITIALS  
CGSB LEVEL II SNT LEVEL II CGSB LEVEL II SNT LEVEL II  
CGSB REG. No. 6066 CGSB REG. No. 6066